

Bid

23/10/2008

1627

METALUX SOLUTIONS (MONTREAL) INC.  
2108, 32E AVENUE  
LACHINE, QUEBEC  
H8T 3H7

Tel : (514) 633-8010

Sales Rep. : ERIC  
Reference : LINDA LACELLE  
Expiration Date : 22/12/2008

Customer : 6323336

Ship To :

DART AEROSPACE LTD  
1270, ABERDEEN STREET  
HAWKESBURY, ONTARIO  
K6A 1K7

Same

Fax : 1 (613) 632-4443

Item No.	Description	Qty.	Price	Total	Tx
SH123	303 HEX .500 9 X 12'	108	8.30	896.40	A
	OU				
SH123	303 HEX .500 17 X 12'	204	7.69	1 568.76	A
	DELIVERY APPROX 1 WEEK				
	F.O.B MONTREAL.				
	THANKS,				
	ERIC KAEHLERT.				

Subtotal 2 465.16

TPS : 123.26

A) Regist :

Total : 2 588.42

# OUTO KUMPU

## Certificate of Test

\*\*\*\*\*  
\* CERTIFICATION \*  
\*\*\*\*\*

HEAT R50377

ORDER 0496191/001 SON 28063C BOL 0149304 TAG 1851525 05/07/08

SHIP TO:

Dart Aerospace Ltd

P.O. 7447

PIS 56842

01-40367 5/07/08 YOUR ORDER & DATE  
CUST# CASTLE01 CUST TAG# IAC 4901

### ITEM DESCRIPTION

GRADE 303

Size 303 CDA HEX BAR 1/2 STD

Ship Condition A

Country of Melt: BRI

Country of Mfg.: USA

NAFTA Country of Origin is Country of Melt

Total Bundles 1 SON Weight 2200

### SPECIFICATIONS

MFG TO FINISHED BAR IN THE USA FROM BILLETS IMPORTED FROM BRITAIN

AMS 5640U TYPE I

ASTM A484 06B

ASTM A582 05

DIN 50049/EN 10204 3.1B

SOLUTION ANNEALED CONDITION

FREE OF CONT. CARBIDE NETWORK

AISI-303, UNS S30300, SAE30303

NO WELD REPAIR

UNS S30300, AISI 303

FREE OF MERCURY CONTAMINATION

AM CASTLE 3303-11 R27

### MECHANICAL & OTHER TESTS

Test Condition A

Hardness as shipped 230 HBW

Hardness as shipped 97 HRBS

Hardness as converted from tensile

Grain size 8.5

Micro OK

Intergranular corrosion OK

Tensile strength, KSI (MPa) 111.0 ( 765)

0.2% Yield Strength, KSI (MPa) 98.5 ( 679)

Elongation % in 4D 37.0

Reduction of area % 55.0

### CHEMICAL COMPOSITION

Carbon (C)	.043	Manganese (Mn)	2.740
Phosphorus (P)	.028	Sulphur (S)	.338
Silicon (Si)	.430	Chromium (Cr)	17.250
Nickel (Ni)	8.660	Cobalt (Co)	.119
Copper (Cu)	.422	Moly (Mo)	.450
Nitrogen (N)	.051	Columbium (Cb)	.001
Titanium (Ti)	.003	Aluminum (Al)	.003
Tin (Sn)	.012	Boron (B)	.001
Tantalum (Ta)	.002	Vanadium (V)	.070
Columbium/			
Tantalum (Cb+Ta)	.003		
Iron (Fe)	Balance		
Melt Practice	EAF		
Refining Practice	AOD		
De-long Ferrite	2.0		

DATE RCVD 5/9/08  
IAC 4901  
APPROVED BY *[Signature]*

Knowingly & willfully falsifying or concealing a material act on this form, or making false, fictitious or fraudulent statements or representations herein could constitute a felony punishable under federal statutes.

We hereby certify that the test results shown in this report are correct and accurate as contained in the records of the company and are in compliance with the specifications, codes, and standards listed above.

M.F. Marciano, Quality Manager

*M.F. Marciano*

## Shipping Order

24/10/2008

IX SOLUTIONS (MONTREAL) INC.  
AVENUE  
MACHINE, QUEBEC  
H8T 3H7  
**Tel.:** (514) 633-8010

**Order** : 56842  
**Reference** : 7447  
**Bid** : 1827  
**Ship** : NOTRE CAMION / OUR TRUCK

**Customer:** 6323336**Ship To**

TST / collect

DART AEROSPACE LTD  
1270, ABERDEEN STREET  
HAWKESBURY, ONTARIO  
K6A 1K7

Att: Chantal

Same

**Tel.:** 1 (813) 632-3336

<i>Item No.</i>	<i>Description</i>	<i>Qty.</i>	<i>Qty. Delivered</i>	<i>E/O Qty</i>
SH123	303 HEX .500 17 X 12'	204	<u>204</u>	<u>✓</u>

F.O.B MONTREAL.

CERTIFICATE REQUIRED

EK

**Shipping** : \_\_\_\_\_  
**Package No** : \_\_\_\_\_  
**Merchandise Received:** \_\_\_\_\_

**Ref.** : \_\_\_\_\_

Shipping Order

24/10/2008

METALUX SOLUTIONS (MONTREAL) INC  
2108, 52E AVENUE  
LACHINE, QUEBEC  
H8T 3H7

Tel: (514) 381-1100

Customer: 6323336

Order : 58342  
Reference : 7447  
Bill : 1527  
Ship

NEBRE-GAMIGNAN-BURTRUCK  
TST / Collect

Ship To

DART AEROSPACE LTD  
1270, ABERDEEN STREET  
HAMMERSBURY, ONTARIO  
M5A 1K7

Same

Tel: 1 (613) 832-8335

Item No.	Description	Qty.	Qty. Delivered	BO Qty
----------	-------------	------	----------------	--------

59103 303 HEX .500  
17 X 12

204 204

✓ 24/11/03

F.O.B MONTREAL

CERTIFICATE REQUIRED

EK

Shipping  
Package No  
Merchandise Received

Ref

# DART

## Purchase Order

Date Oct 24, 2008	Page 1
Purchase Order Number PO00007447	

Dart Aerospace Ltd  
1270 Aberdeen St  
Hawksbury, Ontario K6A 1K7  
Phone: (613)632-9577  
Fax: (613)632-1053

**FAKED**  
(808/10/24)

### Vendor Address:

Metaux Solutions  
2108, 32e Avenue  
Lachine, QC H8T 3H7  
Phone (800) 558-8858  
Fax (514) 633-8044

### Ship To:

Main Finished Goods Location  
Dart Aerospace Ltd  
1270 Aberdeen St  
Hawksbury, Ontario K6A 1K7

Reference	Contact	Vendor Number	PO Date	Terms	Ship Via	Expected Arrival
		VC-MET002	Oct 24, 2008	N30	yours	Oct 31, 2008

Qty. Ordered	Item Number	Description	Expected Arrival	Drop-Ship	Unit Cost	UOM	Extended Price
204.0000	M303H0500	303 HEX BAR .500 Comments: MATERIAL: AISI 303 HEX BAR NOTE: AISI 304/316 NOT ACCEPTABLE	31/10/2008	No	7.690000	f	1,568.76
<div>10/24/08</div> <div>MATERIAL CERTIFICATION REQ'D UPON DELIVERY</div> <div>RUSH</div>							
Comments: Please fax packing slip + material cert thanks Chantal.		Tax Summary: GST 78.44 GSTME 0.00 GSTND 0.00		Less: included tax 0.00 Subtotal 1,568.76 Total tax 78.44		Total purchase order in CAD Dollars 1,647.20	
		Entered By: CLAVOIE					
		Approved By:					

# Dart Aerospace Ltd

Dart Aerospace Ltd  
1270 Aberdeen St  
Hawksbury, Ontario K6A 1K7  
Phone: (613) 632-3336  
Fax: (613) 632-4443

## Receiving Slip

Date Nov 5, 2008	Page 1
Receipt Number RCP00009350	

### Purchase From:

Metaux Solutions  
2108, 32e Avenue  
Lachine, QC H8T 3H7

### Ship To:

Main Finished Goods Location  
Dart Aerospace Ltd  
1270 Aberdeen St  
Hawksbury, Ontario K6A 1K7

Reference	Description	Contact	Vendor Number	PO Number
			VC-MET002	PO00007447

Vendor Item Number	Item Number	Description	Qty. Received	UOM	Unit Cost	Extended Cost	Arrival Date
	M303H0500	303 HEX BAR .500 NOTE: AISI 304/316 NOT ACCEPTABLE MATERIAL: AISI 303 HEX BAR B/N109778	204.0000	f	7.690000	1,568.76	Nov 05, 2008

Comments:

<b>Invoice</b>	<b>DATE</b> 31/10/2008	<b>N°/NO.</b> 97982
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**Customer:** 6323336

DART AEROSPACE LTD  
 1270, ABERDEEN STREET  
 HAWKESBURY, ONTARIO  
 K6A 1K7

**Sales Rep.** : ÉRIC  
**Order** : 56842  
**Reference** : 7447  
**Terms** : NET 30 JOURS / NET 30 DAYS  
**Ship** : TST

**Ship To :**

Same

**Tel. :** 1 (613) 632-3336

<i>Item No.</i>	<i>Description</i>	<i>Ord</i>	<i>Inv.</i>	<i>B/O Qty</i>	<i>Price</i>	<i>Total</i>	<i>Tx</i>
SH123	303 HEX 500 17 X 12'	204	204	0	7.69	1 568.76	A

SHIP TST/COLLECT

CERTIFICATE REQUIRED

EK

**RECEIVED NOV 06 2008**

4) Regist :

**Subtotal :** 1 568.76

**TPS :** 78.44

**Total :** 1 647.20

## Receiving Report

Date: 8/11/03

Batch No: M109778

Supplier: Meda Solutions

Dart P/O: 7447

Packing Slip: Yes ☒ No ☐  
 Invoice: Yes ☐ No ☒  
 Receipt: Cash ☐ Cr ☒

Release Note Attached: Yes ☐ No ☒ N/A  
 Waybill Attached: Yes ☒ No ☐ N/A  
 Shipment Complete: Yes ☒ No ☐ N/A  
 QC6 Inspection OK Yes ☒ No ☐ N/A  
 Work Order                      N/A ☒

**Discrepancies**

Part Number	Description	Quantity Ordered	Quantity Received	Quantity Returned	Quantity Short	Comments

Initials of receiver (if shipment OK) Level 12                     

Production/Admin: 0811105  
 Date: 8/11/03  
 Received/Costing: R12 9350  
 Initial: CG

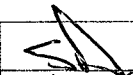
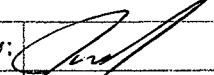
Location




DART AEROSPACE LTD		Work Order: 62286
Description: Ball Stud		Part Number: 13822-5
Inspection Dwg:	Rev:	Page 1 of 1

### FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
.58	$\pm .030$	.585	/			
.50	$\pm .030$	.500	/			
$\emptyset .310$	$\pm .010$	$\emptyset .308$	/			
$\emptyset .215$	$\pm .010$	$\emptyset .215$	/			
$\emptyset .394$	$\pm .010$	$\emptyset .394$	/			
1.53	$\pm .030$	1.530	/			
.630	$\pm .010$	.630	/			
.478	$\pm .010$	.478	/			
.313	$\pm .010$	.320	/			
.155	$\pm .010$	.158	/			
.090	$\pm .010$	.095	/			
.900	$\pm .010$	.902	/			
.3125 .3053	N/A	.308	/			
.3125-24 UNF-3A	N/A	.3125-24 UNF	/			
M.O.W.	Min. .3336 Max. .3363	.335	/			

Measured by: 	Audited by: 	Preliminary Approval: N/A
Date: 10/09/30	Date: 10-09-30	Date: -

Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	

 10.04.15

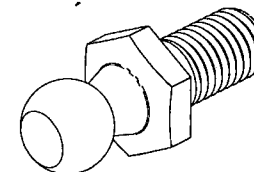
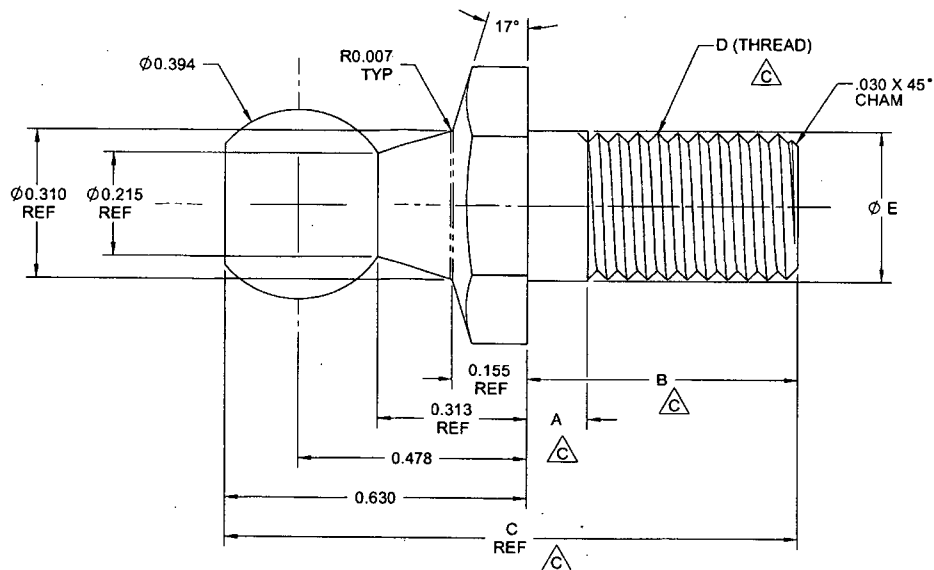
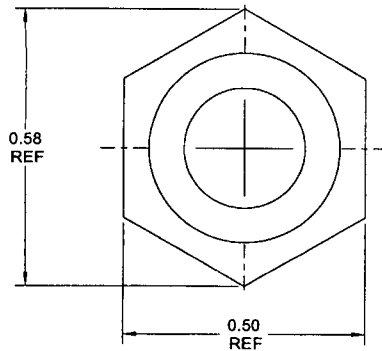
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

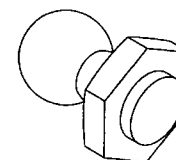
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**D3622-1 BALL STUD  
SHOWN**



**D3622-11 BALL STUD  
SHOWN**

PART NUMBER	DIM A	DIM B	DIM C	WEIGHT (LBS)	THREAD D	Ø E	
						MIN	MAX
D3622-1	0.125	0.563	1.19	0.03	0.3125-24UNF-3A	0.3053	0.3125
D3622-3	0.125	0.563	1.19	0.03	0.1875-32UNF-3A	0.1840	0.1900
D3622-5	0.090	0.900	1.53	0.04	0.3125-24UNF-3A	0.3053	0.3125
D3622-7	0.060	0.330	0.96	0.03	0.3125-24UNF-3A	0.3053	0.3125
D3622-9	0.090	1.160	1.79	0.04	0.3125-24UNF-3A	0.3053	0.3125
D3622-11	0.060	N/A	0.69	0.02	NOT THREADED	0.270	0.300
D3622-13	0.090	0.680	1.31	0.03	0.3125-24UNF-3A	0.3053	0.3125

**D3622-X BALL STUD**

**NOTES:**

- 1) MATERIAL: AISI 303 HEX BAR  
REF DART SPEC M303H0.500
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENT P/N D3622-X & B/N PER QSI 044
- 7) WEIGHT: SEE D3622-X TABLE

#62286

**RELEASED**  
2010-09-23

C	SHEET 1: ADD -5, -7, -9, -11 & -13. ADD D3622-X TABLE. SHEET 2 DELETED	JPH	10.07.20
B	ADD -3 (SHEET 2)	HS	09.09.18
A	NEW ISSUE	MB	07.04.13
REV.	DESCRIPTION	BY	DATE
DESIGN	JPH		
DRAWN	JPH		
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	10.07.20		
<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA DRAWING NO. <b>D3622</b> <b>TITLE</b> <b>BALL STUD</b> <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD</small>			
			REV. C SHEET 1 OF 1 SCALE NTS

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Friday, September 24, 2010 2:44:07 PM

Page 1

Work Order ID: 62286



Parent Item: D3622-5



Parent Item Name: Ball Stud


Start Date: 9/24/2010

Required Date: 9/30/2010

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP REV:A NEW ISSUE 10-09-23 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M303H0.500  303 HEX BAR .500		Purchased	No			100	f	125.8880	0.108	0.454737			



10/09/30

Location

Loc Qty

Loc Code

MAT037

125.888

109778

101.888

109846

24

0.6 Rt

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 62286**

Friday, September 24, 2010 2:44:07 PM

Page 2

Item ID: D3622-5

Accept

Revision ID:

Item Name: Ball Stud

Start Date: 9/24/2010 Start Qty: 4.00

Required Date: 9/30/2010 Req'd Qty: 4.00

Reference:

Cust Item ID:

Customer:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

130

Identify as per dwg &amp; Stock Location: 070

0.00



Packaging

Memo

0.00

Packaging

10.10.12 (4)

140

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10.10.12

10-10-15 (4)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries





# Work Order ID 62286

Friday, September 24, 2010 2:44:07 PM


Page 1

Item ID:	D3622-5	Accept		Setup	Start	
Revision ID:						
Item Name:	Ball Stud				Stop	
Start Date:	9/24/2010	Start Qty:	4.00		Cust Item ID:	
Required Date:	9/30/2010	Req'd Qty:	4.00		Customer:	
Reference:						


Approvals:	Process Plan:	<u>mf</u>	Date:	<u>10-9-24</u>	Tooling:		Date:		Run	Start	
	QC:		Date:		SPC (Y/N):		Date:			Stop	

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr								
D3622	C								

100		Hardinge CNC LATHE SMALL	0.00						
Hardinge		Memo	0.00						
Hardinge CNC Lathe Small		1-TURN AS PER FOLIO F966 & DWG D3622 , FOLIO REV: <u>C</u> DWG REV: <u>C</u> 2-DEBURR AS REQUIRED							

SH 10/09/30

110		QC2- Inspect parts off machine FAI/FAIB	0.00						
QC		Memo	0.00						
Quality Control									

SH 10/09/30

120		QC8- Inspect parts - second check	0.00						
QC		Memo	0.00						
Quality Control									

7/10.09.30

**MATERIAL CERTIFICATION**  
REQ'D UPON DELIVERY  
02/10/09/30